

REMARKS

Claims 11 to 13, 17, 21, 25, 27, 29, 30 and 32 to 41 are pending in the present application.

Reconsideration of the application is respectfully requested based on the following remarks.

With respect to paragraph two of the Final Office Action, claims 11 to 13, 17 to 30 and 32 to 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0153244 to Kellum (the “Kellum” reference), in view of U.S. Patent Application Publication No. 2004/0019420 to Rao et al. (the “Rao” reference).

To reject a claim under 35 U.S.C. § 103(a), the Office bears the initial burden of presenting a *prima facie* case of obviousness. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish *prima facie* obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Also, as clearly indicated by the Supreme Court in *KSR*, it is “important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the [prior art] elements” in the manner claimed. *See KSR Int’l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007). In this regard, the Supreme Court further noted that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.*, at 1396. Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim features. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Independent claims 11 and 33 are to a device and method, respectively, that classifies objects into either a **pedestrian object class** or a **vehicle object class** based on their velocity and acceleration.

The “Kellum” and “Rao” references, either individually or in combination, do not disclose or even suggest the above-identified claim features. In particular, neither the

“Kellum” nor the “Rao” reference even discusses the issue of classifying an object as a pedestrian (as opposed to a vehicle), as provided for in the context of the claimed subject matter. Instead, both of these references only discuss responding to objects which are vehicles. Thus, the “Kellum” and “Rao” references cannot possibly disclose, or even suggest, the feature of classifying objects into either a pedestrian object class or a vehicle object class based on their velocity and acceleration, as provided for in the context of the presently claimed subject matter.

Moreover, the Final Office Action only cursorily addresses the claim feature of classifying objects into either a pedestrian object class or a vehicle object class based on their velocity and acceleration. In fact, the Final Office Action has not identified any section of either the “Kellum” and “Rao” references that even discusses the classification of an object as a pedestrian class, let alone doing so on the basis of both the acceleration and velocity of the object, as provided for in the context of the claimed subject matter.

The Final Office Action merely states (on page 4), without previously discussing the issue of *pedestrian classification*, the following (emphasis added below):

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the length and width based classification system of Rao et al. ('420), within the context of the object detection and driver warning system of Kellum, so as to determine or distinguish between pedestrian and vehicle type objects or targets in the path of the vehicle as part of a collision mitigation or elimination system, by warning the driver according to the relative size and acceleration of an object as part of an impact threat assessment.

Thus, the Final Office Action conclusorily concludes that determining a pedestrian object class -- i.e., as opposed to a vehicle object class, using the acceleration and velocity of the object would be obvious based on the systems of the “Kellum” and “Rao” references.

However, it is respectfully submitted that this contention is simply not supported by the references because, as explained above, neither reference even discusses pedestrian objects. Thus, the Final Office Action’s contention that the above-discussed claim feature (of classification of objects into either a pedestrian object class or a vehicle object class based on their velocity and acceleration) is obvious is necessarily on an assumed level of knowledge or skill of one of ordinary skill in the art. However, the Final Office Action has not asserted

what it considers to be the level of knowledge and skill of one of ordinary skill in the art, nor has it presented Applicant with any **evidence or affidavit attesting to such under Rule 104.**

In the Response to Arguments section the Final Office Action acknowledges that “neither Kellum nor Rao et al. teaches classification of objects into vehicle, pedestrian and securely anchored object classes.” However, it nevertheless conclusorily asserts that “it would have been obvious to one of ordinary skill in the art to use such classifications when determining a restraint/countermeasure system because of the specific teaching of Rao et al. relation to size and relative velocity of detected objects and determining countermeasures so as to minimize the severity of the collision.”

However, it is respectfully submitted that the prior art must disclose or suggest each claim feature and it should also provide a *motivation or suggestion for combining the features in the manner contemplated by the claim.* (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)). Thus, the “problem confronted by the inventor must be considered in determining whether it would have been obvious to combine the references in order to solve the problem”, Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 679 (Fed. Cir. 1998). Still further, *prima facie* obviousness cannot be established based on a modification of a reference that destroys the intent, purpose, or function of the invention disclosed in the reference, since there is no suggestion or motivation to make the proposed modification. See In re Gordon, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984).

The “Kellum” reference provides that a “threat assessment algorithm evaluates the *likelihood of an impact* between the host vehicle and objects detected by the object detection system.” (“Kellum” reference, paragraph 0007, (emphasis added)). The nature of the objects detected is described as “size, shape, location, speed, acceleration” and is purely for the intent to “*determine whether any of the detected objects are ... potentially in the path of the host vehicle.*” (“Kellum” reference, paragraph 00015, (emphasis added)). Thus, it merely focused on the likelihood of impact by determining if objects are in the path of the host vehicle to reduce false alarms. Whether an object is a pedestrian class or a vehicle is absolutely not discussed and there is *no motivation to differentiation* because it in no way affects the likelihood of collision or the reduction of false alarms with which the “Kellum” reference appears to focus on.

Similarly as acknowledged by the Final Office Action, the “Rao” reference evaluates “object length and width, as well as distance and relative velocity.” The object discussed is a vehicle. As in the “Kellum” reference, an evaluation of pedestrian class versus vehicle is absolutely not performed because there is no motivation for the “Rao” reference to do so.

Accordingly, neither the “Kellum” reference nor the “Rao” reference, by themselves or in combination, provide a motivation or suggestion for combining the features as suggested by the Final Office Action. Therefore, the assertion that one of ordinary skill in the art would have sufficient skill and motivation to make the necessary modifications based on the teachings of the applied art to arrive at the claimed invention is completely unsupported and far-fetched, at best. First, the Final Office Action completely and absolutely relying on the “level of ordinary skill in the art” for the obviousness rejection, but there isn’t a shred of evidence regarding what the ordinary skill level in the art is. Second, simply asserting that “it would be obvious doesn’t provide any meaningful reasoning as to why one of ordinary skill in the art would have been motivated to make the asserted modification

Instead, the Final Office Action is simply stating, without any supporting evidence, that it would have been obvious to try the asserted combination. However, the “obvious to try” rationale is clearly insufficient to support an obviousness rejection, particularly when the Final Office Action has not established any finding as to: a) whether the problem addressed by the present invention was recognized in the art; b) whether there was any recognized potential solution to the problem in the art; or c) whether one of ordinary skill in the art could have pursued the recognized potential solution with a reasonable expectation of success.

Therefore, the above-discussed features of claims 11 and 33 are not disclosed or even suggested by the “Kellum” and “Rao” references. Accordingly, claims 11 and 33, as well as their dependent claims, are allowable.

Accordingly, claims 11 to 13, 17, 21, 25, 27, 29, 30 and 32 to 41 are allowable.

CONCLUSION

Applicants respectfully submit that all pending claims of the present application are allowable. It is therefore respectfully requested that the rejections (and any objections) be withdrawn. Prompt reconsideration and allowance of the present application are therefore respectfully requested.

Respectfully submitted,

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